Remarks

Claims 26, 28-30, 32-37 and 52-55 are now pending in this application. Applicants have amended claims 26, 30 and 32-37, cancelled claims 23 and 38-51 and present claims 52-55 to clarify the claimed invention. Applicants respectfully request favorable reconsideration of this application.

Applicants have amended the specification to correct the translation of the Finnish term "boori" in the priority application from "borium" to boron. Applicants have also corrected the specification to correct translation of "as well as" to "both". The Finnish priority document included an expression that means "both . . . and . . .".

Regarding newly presented claim 52, which replaces claim 23, in view of the specification as page 7 lines 14-17, all reactants required in the preparation of doped glass material according to the invention, both the base materials (for example Si or Ge) and dopants (for example Al and rare earth metals) are in the beginning brought to a vaporous form, that is the gas phase. Consequently, this passage supports the recitation that the base materials and the dopants are "the reactants" utilized in the preparation of doped glass material. Additionally, page 11, lines 11-13, of the specification states that chlorine-free reactants, such as tetraehtylortosilicate or tetraethoxygermanium, can be used as base materials. Furthermore, page 7, lines 21-23, of the specification state that, for example, silicon tetrachloride can be used as the base material, and erbium chloride can be used as the dopant. Thus, the reactants can include a first reactant comprising silicon or germanium and a second reactant including a rare earth metal.

Page 9, lines 12-14, of the specification describes that the gas flow can be mixed with oxidative gases so as to perform fast condensation of the reactants in the gas phase. Page 9, line 31, of the specification describes how oxygen or carbon dioxide can be used as "oxidative gases". Hence, there may also be only one oxidative gas. Page 8, lines 19-22, of the specification describes that the hot gases of the gas flow are oxidized and, thus, at the same time condensate very fast into oxides forming glass material.

Page 8, line 27, of the specification describes that particles are formed as a result of the condensation. The recitation of "oxidizing" in claim 52 already implies that there is a "sufficiently high temperature", that is. a temperature which is high enough to enable oxidation. Page 9, lines 8-14, of the specification describe that mixing of reduced reactants with oxidative gases may cause fast condensation, because the saturated vapor pressure of the oxidized forms of the reactants is lower than the saturated vapor pressure of the corresponding reduced forms. The gas flow contains silicon/germanium and a rare earth metal. Both are needed for forming doped light-amplifying glass. Consequently, both silicon/germanium and a rare earth metal are oxidized such that their oxidized forms reach a supersaturated state substantially immediately prior to condensation, in order to obtain homogeneous particles.

Based on page 7, line 30, through page 8, line 22, of the specification the base materials and dopants, that is, the first reactant and the second reactant are kept in the gas phase prior to oxidation. Page 3, lines 17-28, of the specification describe that methods according to Prior Art

may produce two types of particles: small particles formed by condensation and residual particles resulting from drying of aerosol droplets. Page 4, lines 9-13, of the specification discusses how there is a problem when doped particles are not created substantially directly by condensation, because impurities may be encapsulated in the residual particles. In other words, these passages teach that all substances should be in the gas phase prior to condensation.

Applicants have amended claim 34 to recite that the oxidation takes place in temperatures, which are in the range of 1000 to 2000°C. This is discussed in the specification on page 10 lines 1-3.

Applicants have amended claim 37 to recite that the second reactant is in a liquid solution prior to the heating. Support for this can be found in the specification at page 7, lines 23-26.

Newly presented claim 52, which recites that the jets are substantially transverse with respect to the gas flow, is supported by the specification at page 9 line 19, and by Figs. 1 and 3.

Applicants have overcome the objection to claims 26, 28, 36 and 37 by correcting their dependency. Claim 51 is no longer pending. Accordingly, Applicants respectfully request withdrawal of the objection to claims 26, 28, 36, 37, and 51.

The Examiner rejected claims 23, 29, 30, 32-35 and 45-50 under 35 U.S.C. § 112, first

paragraph, as failing to comply with the written description requirement.

With respect to the supersaturation of the reactants, claim 52, which replaces claim 23, recites that the first reactant comprises silicon and the second reactant comprises a rare earth metal. Oxidized forms of these components do not require cryogenic temperatures to achieve supersaturation.

Claim 45 is no longer pending. Additionally, newly presented claim 53 recites that one or more jets of the at least one oxidant gas are directed to the gas flow in a narrowest part of the de Laval nozzle. This is clearly supported by the specification, for example, at page 10, second paragraph.

Applicants have amended the specification to correct the translation of the Finnish term "boori" in the priority application from "borium" to boron. Accordingly, the specification supports the recitation of boron.

In view of the above, all pending claims comply with 35 U.S.C. § 112, first paragraph, and Applicants respectfully request withdrawal of this rejection.

The Examiner rejected claim 35 under 35 U.S.C. § 112, second paragraph, as indefinite. Applicants have amended the specification to correct the translation of the Finnish term "boori"

in the priority application from "borium" to boron. Applicants submit that claim 35 complies with 35 U.S.C. § 112, second paragraph, and respectfully request withdrawal of this rejection.

With respect to U.S. patent 4,212,663 to Aslami, Aslami does not disclose or suggest a rare earth element, that a reactant including a rare earth metal would be entirely in the gas phase prior to mixing with an oxidative gas, or simultaneous supersaturation. Page 5, line 32, through page 6, line 5, of the specification describes how all components utilized in forming doped material should be brought substantially simultaneously to a supersaturated state immediately prior to condensation, in order to obtain homogeneous particles. Providing all substances in the gas phase helps to avoid impurities carried by residual particles, as discussed at page 3, lines 17-28; and page 4, lines 9-13, of the specification. Particles formed by simultaneous supersaturation are very homogenoeus, as discussed at page 5, line 32, through page 6, line 1, of the specification.

In view of the above, Applicants respectfully request favorable reconsideration of this case and early issuance of the Notice of Allowance.

If an interview would advance the prosecution of this application, Applicants respectfully urge the Examiner to contact the undersigned at the telephone number listed below.

The undersigned authorizes the Commissioner to charge fee insufficiency and credit

overpayment associated with this communication to Deposit Account No. 22-0261.

Respectfully submitted,

Date: December 29, 2008

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